

CLAIMS

What is claimed is:

1 1. An apparatus comprising:
2 a grip; and
3 a binocular digital display assembly coupled to the grip and rotatable
4 about the grip between a plurality of angular positions which can be maintained during
5 use.

1 2. The apparatus of Claim 1 wherein the binocular display assembly
2 comprises:
3 a first lens;
4 a first display element disposed to be a focal distance from the first lens
5 when the display assembly is in a deployed orientation;
6 a second lens; and
7 a second display element disposed to be a focal distance from the second
8 lens when the display is in a deployed orientation.

1 3. The apparatus of Claim 2 wherein the display elements are one of liquid
2 crystal displays (LCDs), organic light emitting diode (OLED) displays, Liquid Crystal
3 On Silicon (LCOS) displays, electroluminescent (EL) displays, and retinal scan lasers.

1 4. The apparatus of Claim 1 wherein the display assembly has a stowed
2 orientation and a deployed orientation and wherein when in the stowed orientation, at
3 least 25% of a deployed volume of the display assembly overlaps with a volume of the
4 grip.

1 5. The apparatus of Claim 4 further comprising:
2 a self powered expander which when actuated expands the display
3 assembly from its stowed volume to its deployed volume.

1 6. The apparatus of Claim 4 further comprising:
2 a self powered positioner which when actuated transitions the display
3 assembly from its stowed orientation to its deployed orientation.

1 7. The apparatus of Claim 1 further comprising:
2 a lens assembly coupled to the grip; and
3 an image sensing array (ISA) optically coupled to the lens assembly.

1 8. The apparatus of Claim 7 further comprising:
2 a sensor to detect a position of the display assembly relative to the ISA
3 and cause an adjustment to an image displayed on the display assembly based on the
4 position to maintain a consistent orientation of a target on the display.

1 9. The apparatus of Claim 1 further comprising:
2 a distributed network interface coupled to the display assembly.

1 10. The apparatus of Claim 7 wherein the binocular display assembly
2 comprises:
3 a photographic light source.

1 11. The apparatus of Claim 7 wherein the binocular display assembly
2 comprises:
3 a photographic light source positioned sufficiently far from the lens
4 assembly to reduce illumination errors.

1 12. The apparatus of Claim 7 further comprising:
2 a trigger to cause a capture by the ISA, the trigger disposed on the grip to
3 allow actuation by an index finger of a hand holding the grip.

1 13. The apparatus of Claim 12 wherein any actuation of the trigger causes a
2 capture.

1 14. The apparatus of Claim 1 further comprising:
2 a pointer button coupled to the grip to provide an interface for user
3 manipulation of a pointer within the display.

1 15. The apparatus of claim 14 wherein the pointer button is disposed to allow
2 actuation by the thumb of a hand holding the grip.

1 16. The apparatus of Claim 1 wherein the pointer button is only accessible
2 when the grip is in a deployed orientation.

1 17. The apparatus of Claim 14 wherein the pointer button resides within a
2 region and wherein a position of the pointer button within the region is absolutely
3 mapped to the display.

1 18. The apparatus of Claim 1 wherein the trigger and the pointer button
2 provide access to substantially all user controls without the need for other buttons.

1 19. The apparatus of Claim 1 wherein the apparatus defines a plurality of
2 memory card slots.

1 20. The apparatus of Claim 7 further comprising:
2 a plurality of memory card interfaces to permit a plurality of memory
3 cards to be concurrently attached and electronically selected by the apparatus.

1 21. The apparatus of Claim 1 wherein at least a first position is suitable for
2 right handed use and at least a second position is suitable for left-handed use.

1 22. The apparatus of Claim 1 wherein in the deployed orientation, the grip
2 may pivot to at least one self maintaining position on an axis orthogonal to an axis of
3 rotation of the display assembly.

1 23. The apparatus of Claim 1 further comprises:
2 a visor coupled to the housing and to rest upon a forehead of the user
3 when held by a user for use, the visor having a cross-dimension selected to maintain a
4 predetermined focal distance between the first lens and an eye of the user, the visor
5 pivots coupled to the display assembly to pivot between an open and a closed position.

1 24. The apparatus of Claim 23 wherein pivoting the visor to the open position
2 activates the display.

1 25. The apparatus of Claim 23 wherein when the visor is in the closed
2 position, the display is in an inactive state.

1 26. The apparatus of Claim 23 wherein the visor protects a lens of the display
2 assembly when in the closed position.

1 27. The apparatus of Claim 24 further comprising:
2 a timer that times out after a predetermined time during which no display
3 event occurred, the time out causing the display to deactivate; and
4 wherein cycling the visor activates the display.

1 28. An apparatus comprising:
2 a grip having a stowed orientation and a deployed orientation; and
3 a digital display assembly having a stowed orientation and a deployed
4 orientation, such that, in the deployed orientation, the display is laterally displaced
5 relative to the grip such that, in use, a hand holding the grip is laterally displaced
6 relative to a frontal face of a head of a user.

1 29. The apparatus of 28 wherein in the stowed orientation at least 25% of a
2 deployed volume of the display assembly overlaps with a volume of the grip.

1 30. The apparatus of Claim 28 further comprising:
2 a pointer button coupled to the grip to provide an interface for user
3 manipulation of a pointer on the display, wherein, the pointer button is only accessible
4 when the grip is in the deployed orientation.

1 31. The apparatus of Claim 28 further comprising:
2 a sensor to detect relative rotation of the display assembly and to signal
3 the display to adjust an image on the display to maintain a consistent orientation of an
4 image displayed.

1 32. The apparatus of Claim 28 further comprising:
2 a self powered expander which when actuated expands the display
3 assembly from its stowed volume to its deployed volume.

1 33. The apparatus of Claim 28 further comprising:
2 a self powered positioner which when actuated transitions the display
3 assembly from its stowed orientation to its deployed orientation.

1 34. The apparatus of Claim 28 further comprising:
2 a lens assembly coupled to the grip; and
3 an image sensing array (ISA) optically coupled to the lens assembly.

1 35. The apparatus of Claim 34 further comprising:
2 a sensor to detect a position of the display assembly relative to the ISA
3 and cause an adjustment to an image displayed on the display assembly based on the
4 position to maintain a consistent orientation of a target on the display.

1 36. The apparatus of Claim 28 further comprising:
2 a distributed network interface coupled to the display assembly.

1 37. The apparatus of Claim 36 further comprising:
2 a photographic light source.

1 38. The apparatus of Claim 36 further comprising:
2 a photographic light source positioned sufficiently far from the lens
3 assembly to reduce illumination errors.

1 39. The apparatus of Claim 36 further comprising:
2 a trigger to cause a capture by the ISA, the trigger disposed on the grip to
3 allow actuation by an index finger of a hand holding the grip.

1 40. The apparatus of Claim 28 wherein in the deployed orientation, the grip
2 may pivot to at least one self maintaining position on an axis orthogonal to an axis of
3 rotation of the display assembly.

1 41. The apparatus of Claim 31 wherein in the deployed orientation, the grip
2 defines an first acute angle away from a body of an operator to permit comfort and
3 reduce stress on the hand and arm.

1 42. The apparatus of Claim 41 wherein any actuation of the trigger causes a
2 capture.

1 43. The apparatus of Claim 28 wherein the pointer button resides within a
2 region and wherein a position of the pointer button within the region is absolutely
3 mapped to the display.

1 44. The apparatus of Claim 28 wherein the trigger and the pointer button
2 provide access to substantially all user controls without the need for other buttons.

1 45. The apparatus of Claim 28 wherein apparatus defines a plurality of
2 memory card slots.

1 46. The apparatus of Claim 36 further comprising:
2 a plurality of memory card interfaces to permit a plurality of memory
3 cards to be concurrently attached and electronically selected by the apparatus.

1 47. The apparatus of Claim 28 further comprises:
2 a visor coupled to the housing and to rest upon a forehead of the user
3 when held by a user for use, the visor having a cross-dimension selected to maintain a
4 predetermined focal distance between the first lens and an eye of the user, the visor
5 pivots coupled to the display assembly to pivot between an open and a closed position.

1 48. The apparatus of Claim 47 wherein pivoting the visor to the open position
2 activates the display.

1 49. The apparatus of Claim 47 wherein when the visor is in the closed
2 position, the display is in an inactive state.

1 50. The apparatus of Claim 47 wherein the visor protects a lens of the display
2 assembly when in the closed position.

1 51. The apparatus of Claim 48 further comprising:
2 a timer that times out after a predetermined time during which no display
3 event occurred, the time out causing the display to deactivate; and
4 wherein cycling the visor activates the display.

1 52. A camera comprising:
2 an image sensing array (ISA);
3 a lens assembly; and
4 a plurality of memory card slots to which a plurality of memory card
5 devices can be concurrently attached and selected electronically.

1 53. The camera of claim 52 wherein at least two of the memory card slots
2 accept a same media type.

1 54. An apparatus comprising:
2 a binocular display assembly;
3 an execute input interface; and
4 a pointer interface providing absolute mapping between a pointer button
5 and a display of the display assembly wherein substantially all functions of the
6 apparatus can be accessed using only the pointer interface and the execute input
7 interface.

1 55. A handheld apparatus comprising:
2 a housing defining a first opening;
3 a digital display disposed within the housing;
4 a first lens disposed to be between a first eye of a user and the display
5 when in use; and
6 a visor coupled to the housing and to rest upon a forehead of the user
7 when held by a user for use, the visor having a cross-dimension selected to maintain a
8 predetermined focal distance between the first lens and an eye of the user.

1 56. The apparatus of Claim 55 further comprising:
2 a second lens disposed to be between a second eye of the user and the
3 display when in use such that a binocular view is presented to the eyes of the user.

1 57. The apparatus of Claim 55 wherein the visor is pivotally coupled to the
2 housing to pivot between an open position and a closed position.

1 58. The apparatus of Claim 55 wherein the cross-dimension is adjustable
2 within a range.

1 59. The apparatus of Claim 55 wherein the visor is coupled to the housing so
2 as to block some ambient light from the eye of the user when the apparatus is in use.

1 60. A handheld apparatus comprising:
2 a housing;
3 a display within the housing to display a virtual keyboard; and
4 a first and a second user input device, each independent of the other and
5 concurrently operable to activate keys on the virtual keyboard.

1 61. The apparatus of Claim 60 further comprising:
2 a first and a second detector coupled to the first input device and the
3 second input device, respectively, to detect when a user is in contact with the respective
4 device.

1 62. The apparatus of Claim 61 wherein the display displays a virtual
2 keyboard when both sensors detect contact.

1 63. The apparatus of Claim 61 wherein the display displays a mouse cursor
2 when only one detector detects contact.

1 64. The apparatus of Claim 60 wherein when the keyboard is displayed, a
2 location indicator for each user input device is simultaneously displayed; and
3 wherein when the location indicator overlaps a key on the keyboard, the
4 key is highlighted.

1 65. The apparatus of Claim 60 wherein the position of at least one of the first
2 input device is absolutely mapped to a first location on the display and the second
3 input device is absolutely mapped to a second location on the display.

1 66. The apparatus of Claim 65 wherein the first location is in a first subsection
2 of the display and the second location is in a second subsection of the display and
3 wherein the first subsection and the second subsection do not overlap.

1 67. The apparatus of Claim 60 further comprising:
2 a first and a second activator coupled to the first and second input device,
3 respectively, such that actuation of the respective activator results in a key press event
4 at the keyboard on the display.

1 68. The apparatus of Claim 67 further comprising:
2 a location buffer, the location buffer to store location data for one input
3 device prior to actuation and again after actuation to permit compensation for
4 translation during actuation of the input device.

1 69. The apparatus of Claim 60 wherein the display is a binocular display.

1 70. The apparatus of Claim 69 further comprising an imaging unit.

1 71. An apparatus comprising:
2 a camera;
3 a display integrated into the camera, the display having a first region to
4 display first image at a full display resolution; and
5 a second region to simultaneously display a second image at substantially
6 reduced resolution.

1 72. The apparatus of Claim 71 wherein the second region is an inset within
2 the first region.

1 73. The apparatus of Claim 71 wherein the first image and the second image
2 may be toggled between a current view of the camera and a previously captured image.